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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/529,188

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Toshiki Maruyama

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03/17/2008

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EXAMINER

LE, DANG D

ART UNIT

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2834

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DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/529,188	Applicant(s) MARUYAMA ET AL.	
	Examiner Dang D. Le	Art Unit 2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 June 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 March 2005 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>6/22/07</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-13 have been considered but are moot in view of the new ground(s) of rejection.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the following features must be shown or the feature(s) canceled from the claim(s). No new matter should be entered:

- The length and the thickness in claim 3

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New

Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 6, 7, 12, and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Stratienko (4,125,790).

Regarding claims 1 and 6, Stratienko shows a flat, hollow brushless motor (preamble – patentable weight not given) comprising:

- a flattened tubular motor housing sealed at both ends, first and second housing through holes formed in a center of first and second end plate portions (30, 31) on both sides of the motor housing,
- a rotor shaft (17) of which a portion of both ends is exposed from the first and second housing through holes,
- a tool-mounting hole that extends through a center of the rotor shaft, and first and second work piece insertion recesses (around bearings 18 and 19) formed in external surfaces of the first and second end plate portions of the motor housing,

- wherein the first and second work piece insertion recesses are recesses of a prescribed width formed encompassing the first and second housing through holes, respectively, and extending to an external periphery of the motor housing from the housing through holes (between bearing mounting portion to the flange engaging 35, Figure 1B).

Regarding claim 7, Stratienko also shows said brushless servomotor being thin (relative meaning) to enable insertion between facing portions of a work piece for machining of a tip of the facing portions by a machine tool (33) mounted on the rotor shaft and within said central aperture.

Regarding claim 12, Stratienko also shows including a machine tool (33) mounted on the rotor shaft, said machine tool extending axially through said a tool-mounting hole and not extending beyond said central through holes so that said servomotor is capable of insertion between axially spaced facing portions of a work piece.

Regarding claim 13, Stratienko also shows a cylindrical stator assembly (16) having drive coils and an insulator, said stator assembly disposed radially outwardly about said hollow rotor shaft and within said tubular motor housing (15).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 2 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stratienko in view of Lutz et al. (5,982,063).

Regarding claims 2 and 8, Stratienko shows all of the limitations for the claimed invention except for the tool mounting hole having a hexagonal cross section.

Lutz et al. shows the mounting hole having a hexagonal cross section (column 3, line 30-35) for the purpose of preventing the two components from be rotated relative to each other.

Since Stratienko and Lutz et al. are all from the same field of endeavor; the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to make the tool mounting hole with a hexagonal cross section as taught by Lutz et al. for the purpose discussed above.

8. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Stratienko in view of Burrus (2,364,599).

Regarding claim 3, Stratienko shows all of the limitations for the claimed invention except for the maximum length in an axial direction of the rotor shaft being equal to or less than the thickness between bottom faces of the first and second work piece insertion recesses in the first and second end plate portions on both sides of the motor housing.

Burrus shows the maximum length in an axial direction of the rotor shaft (50) being equal to or less than the thickness between bottom faces of the first and second work piece insertion recesses in the first and second end plate portions on both sides of the motor housing (Figure 1) for the purpose of reducing axial size.

Since Stratienko and Burrus are all from the same field of endeavor; the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to make the maximum length in an axial direction of the rotor shaft equal to or less than the thickness between bottom faces of the first and second work piece insertion recesses in the first and second end plate portions on both sides of the motor housing as taught by Burrus for the purpose discussed above.

9. Claims 4 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stratienko in view of Sato et al. (5,770,900).

Regarding claims 4 and 11, Stratienko shows all of the limitations for the claimed invention except for a lead wire laying area extending to an outside in a radial direction

from an external peripheral surface of the motor housing, wherein lead wires disposed along a recess groove formed on an inside surface of the first or second end plate portion of the motor housing are brought out to the lead wire laying area.

Sato et al. shows a lead wire laying area extending to an outside in a radial direction from an external peripheral surface of the motor housing, wherein lead wires disposed along a recess groove formed on an inside surface of the first or second end plate portion of the motor housing are brought out to the lead wire laying area (Figure 2) for the purpose of providing electric power to the stator coil.

Since Stratienko and Sato et al. are all from the same field of endeavor; the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to include a lead wire laying area extending to an outside in a radial direction from an external peripheral surface of the motor housing, wherein lead wires disposed along a recess groove formed on an inside surface of the first or second end plate portion of the motor housing are brought out to the lead wire laying area as taught by Sato et al. for the purpose discussed above.

10. Claims 5, 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stratienko in view of Fukuda et al. (6,424,061).

Regarding claims 5, 9, and 10, Stratienko shows all of the limitations for the claimed invention except for a detection mechanism for detecting motor magnetic pole positions, wherein the detection mechanism comprises an FG magnet disposed on one

end face of the rotor shaft, and a magnetic sensor disposed on an internal surface of the first or second end plate portion facing the FG magnet in the motor housing.

Fukuda et al. shows a detection mechanism for detecting motor magnetic pole positions, wherein the detection mechanism comprises an FG magnet disposed on one end face of the rotor shaft, and a magnetic sensor disposed on an internal surface of the first or second end plate portion facing the FG magnet in the motor housing (7 and 8, Figure 1) for the purpose of monitoring the motor operation.

Since Stratienko and Fukuda et al. are all from the same field of endeavor; the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to include a detection mechanism for detecting motor magnetic pole positions, wherein the detection mechanism comprises an FG magnet disposed on one end face of the rotor shaft, and a magnetic sensor disposed on an internal surface of the first or second end plate portion facing the FG magnet in the motor housing as taught by Fukuda et al. for the purpose discussed above.

Information on How to Contact USPTO

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dang D. Le whose telephone number is (571) 272-2027. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on (571) 272-2044. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Dang D Le/
Primary Examiner, Art Unit 2834

3/1/08